

NEMA HP 5-2009

Electrical and Electronic
Crosslinked, Modified
Polyethylene (XLPE)
Insulated 125 degree C
Hook-Up Wire, Types L
(600 V), LL (1000 V),
and LX (3000 V)



NEMA HP 5

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CROSSLINKED, MODIFIED
POLYETHYLENE (XLPE) INSULATED
125°C HOOK-UP WIRE
TYPES L (600 V), LL (1000 V),
AND LX (3000 V)**

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NEMA Standards Publication HP 5-2009

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125°C Hook-Up Wire, Types L (600 V), LL (1000 V), and LX (3000 V)*

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FOREWORD

This Standards Publication was developed by the NEMA High Performance Wire and Cable Section. It was developed to ensure that these types of hook-up wire can be procured and that they will meet requirements associated with high reliability commercial electrical and electronic equipment in which it is used. Compliance with provisions of this Standards Publication is strictly voluntary and any certification of compliance is left to the discretion of the buyer and seller.

This Standards Publication was designed as a non-government standard for replacement of MIL-W-16878 XLPE insulated wire slash sheets (/14, /15, /16,).

This Standards Publication was developed by the High Performance Wire and Cable Section of NEMA. Section approval of the standard does not necessarily imply that all section members voted for its approval or participated in its development. At the time it was approved, the Section was composed of the following members:

AFC Cable Systems—New Bedford, MA
AmerCable—El Dorado, AR
American Insulated Wire Corporation—Pawtucket, RI
Belden CDT, Inc.—St. Louis, MO
Berk-Tek a Nexans Company—Elm City, NC
Cable USA, Inc.—Naples, FL
Coleman Cable Inc.—Waukegan, IL
Draka Comteq USA Inc.—Franklin, MA
Fisk Alloy Conductors, Inc.—Hawthorne, NJ
General Cable—Highland Heights, KY
Harbour Industries, Inc.—Shelburne, VT
Judd Wire, Inc.—Turners Falls, MA
Kaneka High-Tech Materials, Inc.—Pasadena, TX
Leoni Wire, Inc.—Chicopee, MA
Leviton Manufacturing Co., Inc.—Gardena, CA
Phelps Dodge High Performance Conductors—Inman, SC
Quirk Wire Company, Inc.—West Brookfield, MA
Radix Wire Company—Euclid, OH
Rea Magnet Wire Company, Inc.—Fort Wayne, IN
Rockbestos-Surprenant Cable Corporation—East Granby, CT
Southwire Company—Carrollton, GA
Specialty Cable Corporation—Wallingford, CT
The Monroe Cable Company, Inc.—Middletown, NY
The Okonite Company—Ransey, NJ
Tyco Electronics/Polychem Wire & Cable—Menlo Park, CA

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Section 1 GENERAL

1.1 SCOPE

This Standards Publication covers specific requirements for crosslinked, modified polyethylene insulated solid and stranded wire, designed to the internal wiring of high reliability electrical and electronic equipment. This Standards Publication addresses 600 V (Type L), 1000 V (Type LL), and 3000 V (Type LX) wire and permits continuous conductor temperature ratings of -65°C to $+125^{\circ}\text{C}$ with either uncoated, or silver-coated conductors. These types of hook-up wire are used when the following requirements are called for:

- Moderate temperature resistance
- Low temperature resistance
- Moderate dielectric constant
- Good flexibility and flex life when stranded conductors are used
- Solder iron resistance for easier solder terminations without potential damage
- Good fire resistance

1.2 REFERENCED STANDARDS AND SPECIFICATIONS

American Society for Testing and Materials (ASTM)

100 Barr Harbor Drive
West Conshohocken, PA 19380-2959

B3-01	<i>Soft or Annealed Copper Wire</i>
B33-00	<i>Tinned Soft or Annealed Copper Wire</i>
B286-02	<i>Copper Conductors for Use in Hook-up Wire for Electronics</i>
B298-99	<i>Silver-Coated Soft or Annealed Copper Wire</i>
B624-99	<i>High-Strength, High Conductivity Copper-Alloy Wire for Electronic Application</i>
D3032-04	<i>Methods of Testing Hook-Up Wire Insulation</i>
G21 – 02	<i>Standard Practice for Determining Resistance of Synthetic Polymeric Materials to Fungi</i>

American Society for Quality Control

611 E. Wisconsin Ave.
Milwaukee, WI 53202

ANSI/ASQC Z1.4	<i>Sampling Procedures and Tables for Inspection by Attributes</i>
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Electronics Industries Association

2500 Wilson Blvd.
Arlington, VA 22201

EIA-359-A-85	<i>EIA Standard Colors for Color Identification and Coding</i>
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